SAN FRANCISCO WATER DEPARTMENT

REPORT FOR FISCAL YEAR

1978-1979

CITY AND COUNTY OF SAN FRANCISCO

DIANNE FEINSTEIN - MAYOR

PUBLIC UTILITIES COMMISSION

Claire C. Pilcher	President
Peter McCrea	Vice President
H. Welton Flynn	Commissioner
John F. Henning, Jr.	Commissioner
John M. Sanger	Commissioner
Richard Sklar	General Manager

REPORT OF THE

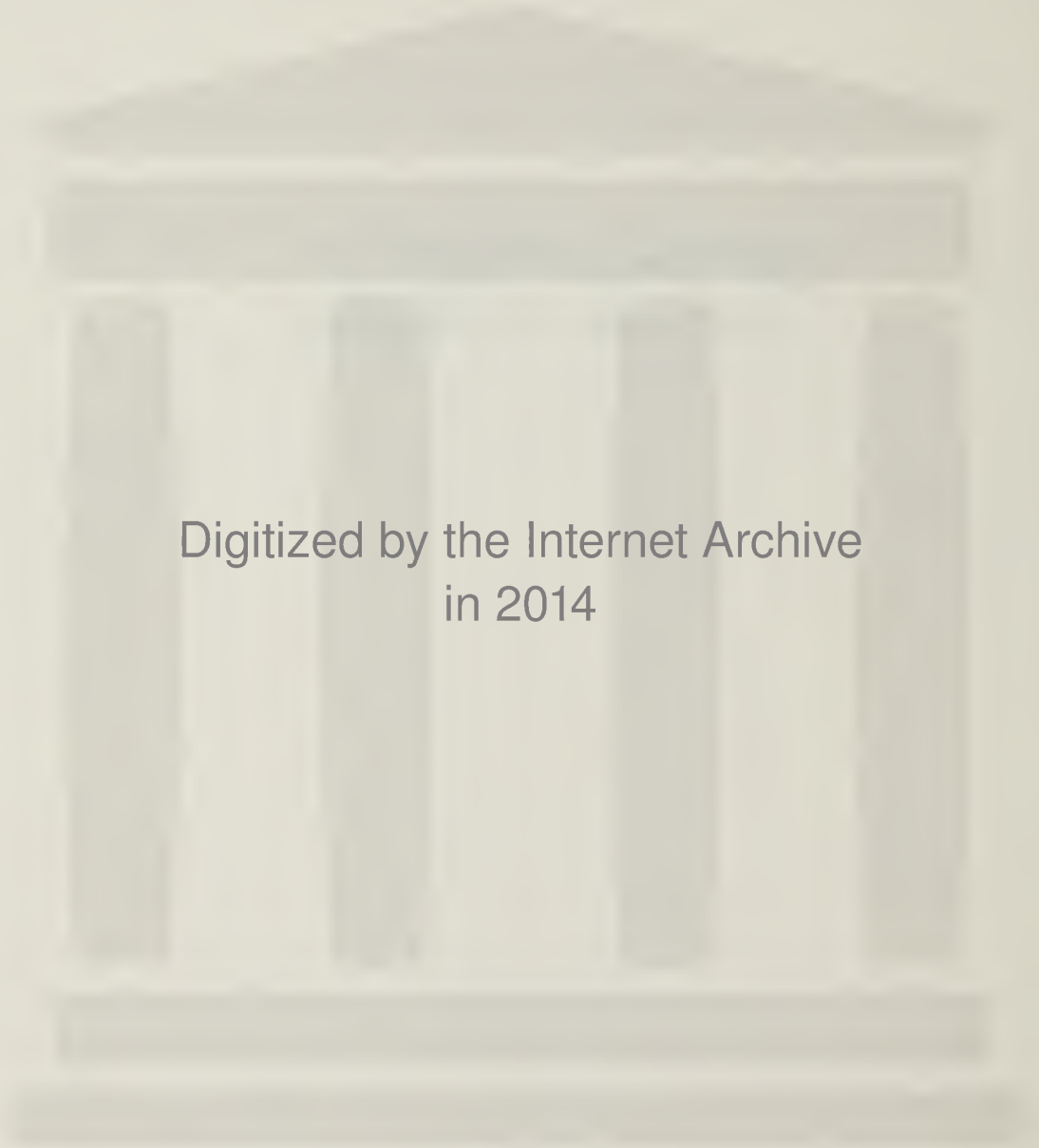
SAN FRANCISCO WATER DEPARTMENT

FISCAL YEAR 1978-79

EUGENE J. KELLEHER
GENERAL MANAGER AND
CHIEF ENGINEER

THE PICTURE ON THE FRONT IS

CRYSTAL SPRINGS DAM SPILLING



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GENERAL MANAGER'S REPORT

AND

FISCAL YEAR 1978-79 HIGHLIGHTS

GENERAL MANAGER'S REPORT

As a municipal utility owned and operated by the City and County of San Francisco, the Water Department is under a public mandate to deliver to all consumers a safe potable water in adequate quantity; to comply with all applicable federal and state regulations for water quality and public safety; to equitably charge and collect for water services; to provide for the needs of the present and future through continuous planning and improvements; and to conduct all departmental operations efficiently at reasonable cost.

In carrying out this mandate the Water Department serves water to an estimated one and three quarter million people within the City and County of San Francisco, most of the urban area of San Mateo County, the Cities of Palo Alto, Mountain View, Sunnyvale and Milpitas in northern Santa Clara County, and the Hayward, Sunol and Fremont areas in southern Alameda County.

In all its operations the Water Department is entirely self-supporting. All operations, maintenance, improvements, taxes, bond interest and redemptions including the original bond issue for purchase of the Spring Valley Water Company were paid for out of revenues.

WATER CONSUMPTION

Following the end of the drought emergency in January, 1978, the Public Utilities Commission established a 15 percent voluntary water conservation program to mitigate the results of future droughts and reduce the need for costly capital expenditures for water facilities. The Department in preparing its budget for Fiscal Year 1978-79 based its estimated revenue from water sales on the assumption that sales would be 85 percent of pre-drought levels. Actual deliveries for 1978-79 were 84 percent of pre-drought usage but the revenue received from water sales was only 88.9 percent of the Department's estimate. This resulted in a $2,154,612 reduction in water sales revenue from that estimated for 1978-79, which loss had to be absorbed from the Department's unappropriated revenue.

The discrepancy between water deliveries and water sales resulted from the difference in water consumption inside and outside San Francisco. In the suburban area water deliveries were 93 percent of normal while in San Francisco deliveries were only 73 percent of normal. Since the unit cost of water in San Francisco is higher than it is in the suburban service area, the overall unit price of water sold was less than anticipated. The fact that customers in San Francisco continue to use water at 73 percent of pre-drought levels even though water is plentiful at the present time can be

attributed to the excellent water conservation habits that our customers developed during the recent drought. Our commercial and industrial customers who adopted water saving measures during the drought are continuing to utilize most of these measures to conserve water and reduce their monthly water charges. The voluntary water conservation program instituted by the Public Utilities Commission will continue as an ongoing program to promote water conservation in the entire Water Department service area.

CAPITAL PROGRAM

The San Francisco Water Department service area includes not only San Francisco, but almost all of the Peninsula cities in San Mateo County and other South Bay communities in Santa Clara and Alameda Counties. Suburban consumption, which represents about 60 percent of the total system consumption, increased by 37 percent while in San Francisco consumption increased by only 12 percent over the drought year of 1977-78. While system-wide consumption was only 84 percent of pre-drought use, it is apparent that consumption will continue to increase especially in the suburban counties thereby creating a need for future capital expenditures to meet the rise in consumption.

Because of lower water sales revenue caused by the drought and mandatory water rationing, and because of the Department's desire to limit the necessary rate increase, capital expenditures for 1977-78 were drastically cut back. For 1978-79 the Public Utilities Commission approved $1,910,000 for Capital Projects and $3,401,000 for Facilities Maintenance, an increase of $1,328,000 and $1,059,000 respectively in these two budgetary items. Although these increases were substantial, they did not provide sufficient funds for the Department to catch up on system maintenance and improvements deferred over the last several years.

RATE INCREASE

On February 13, 1979 the San Francisco Public Utilities Commission approved a 14 percent water rate increase to fund the $3,909,083 increase in the 1979-80 budget and provide sufficient funds in the unappropriated balance of funds for salary increases anticipated in 1979-80. Major increases in the 1979-80 budget included $2,350,000 in transfers to the Hetch Hetchy Project to rehabilitate the Hetch Hetchy Pipeline No. 3 crossing the San Joaquin Valley and $1,328,000 in Facilities Maintenance and Capital Projects associated with a 50-year program to replace portions of the 1,200 mile distribution system in San Francisco. The 14 percent rate increase

was disapproved by the Board of Supervisors on March 19, 1979.

The Public Utilities Commission modified the budget for the Water Department and on April 10, 1979 approved a 12 percent water rate increase based on the reduced budget. Budget reductions necessary to accommodate the 12 percent water rate increase primarily involved a reduction in funds available for the main replacement program for 1979-80. The 12 percent water rate increase was approved by the Board of Supervisors and became effective with meter readings taken on and after July 1, 1979.

COLLECTION OF UTILITY TAX AND SEWER SERVICE CHARGE

Under City Ordinances the Water Department is charged with the responsibility of collecting a Utility Tax and a Sewer Service Charge.

Utility Tax collections are placed in the General Fund. Funds collected under the Sewer Service Charge are deposited in a special fund under the jurisdiction of the Department of Public Works.

Taxes and charges collected during 1978-79 were:

Utility Tax	$ 705,004
Sewer Service Charge	31,252,145
	$31,957,149

STATE AID AND FEDERAL AID

During 1978-79 no Federal or State monetary aid was received.

Eugene J. Kelleher
General Manager and
Chief Engineer

HIGHLIGHTS

Water Supply

For 1978-79 the run-off locally was 16.6 billion gallons, which is about 10 percent below the 40-year average; in the Sierras the run-off was above normal. San Francisco's total water storage on June 30, 1979 was 267.9 billion gallons, which represents a 3-year supply at the current level of usage.

The total water consumption for the system was 84.0 billion gallons or 85 percent of the usage during the pre-drought year of 1975-76. Consumption in San Francisco was 29.9 billion gallons or 73 percent of that used during the pre-drought year 1975-76 and in the suburban area of the system consumption was 54.1 billion gallons or 93 percent of pre-drought usage.

Commercial Division Reorganization

The Division was completely reorganized during the fiscal year and has resulted in greater operating efficiency, stronger lines of supervision, greater administrative flexibility, a reduction in operating cost and an increase in promotional opportunities for the employees.

The collection process was streamlined to make personnel more readily available to customers. The Lock Box System was also initiated with the Crocker Bank for more timely processing of payments with resultant savings to the Department.

Energy Conservation Office

The Assistant Manager of the Commercial Division, in addition to normal duties, is functioning as coordinator for the Mayor's Conservation Task Force. Staff consists of one CETA employment with additional support from other Water Department personnel.

The Mayor's energy conservation campaign was implemented in May, 1979 and covered all City departments, the Unified School District, and the Community College. Energy audits were completed on ten City buildings utilizing staff from the California Energy Commission and the Pacific Gas and Electric Company. Retrofitting of these buildings is going forward within the limits of existing resources. The energy monitoring report will be produced and distributed to all City departments sometime during September, 1979. Forty City employees from the engineering, operations and maintenance fields will have completed a 3-day training course in performance of energy audits by August 31, 1979. Efforts are being made to complete as many audits as possible by November 30, 1979, the deadline for grant applications for technical assistance under terms of the National Energy Act.

Energy Conservation Office - Continued

Further program development will depend on staffing for the coordination function, clerical duties, and engineering services. Approval by the Civil Service Commission to replace the current CETA employment, which can be funded only through September 30, 1979, with a staff assistant will be sought at the first meeting in September.

Water Quality

(a) Asbestos

In September the San Francisco Water Department received a letter from the California State Department of Health Services urging that a program of asbestos reduction in the water supply be instituted and that a progress report be submitted. This interest in asbestos was due to release of a University of California doctoral thesis "Asbestos in Drinking Water and Cancer Incidents." This thesis suggests an apparent statistical correlation between water supplies, including San Francisco's, which are high in naturally occurring asbestos and higher than expected cancer of some body sites including the stomach.

In order to comply with the Department of Health request, the Water Department instituted optimization of turbidity removal at its filtration plants. A turbidity test can be a surrogate for the much more expensive and difficult asbestos electron microscope identification. Also, use of non-filtered water was held to a minimum wherever possible.

(b) Chlorine Safety

The Department of Public Works was directed by the Board of Supervisors to eliminate the use of gaseous chlorine in sewage plants. The Water Department was a participant in these deliberations and agreed to institute additional chlorine safety measures by modernizing equipment; installing alarms and minimizing the quantity of chlorine on hand in San Francisco. A supplemental appropriation to accomplish these goals was prepared by the Department.

Shooting at Lake Merced Pump Station

A tragic shooting incident occurred at the Lake Merced Pump Station on February 16, 1979 when Roland Luchini, a Stationary Engineer, shot and killed Patrick Healy, a Chief Stationary Engineer, and Eduardo Bura, a Senior Stationary Engineer. In addition, Mr. Luchini shot and seriously injured James Chamberlin, another Stationary Engineer at the facility. Mr. Luchini was later tried and found guilty of the murders of the two Department employees.

With the sudden loss of four Stationary Engineers the Department was faced with the serious problem of providing sufficient manpower to maintain and operate pumping facilities in San Francisco. Due

to the extra efforts of the remaining Stationary Engineers and their willingness to work for extended periods of time, all shifts were manned and uninterrupted operations were continued.

Main Leaks

In the Fiscal Year 1978-79, the City Distribution Division responded to 305 reports of leaks in the street and repaired a total of 184 main leaks. Of the total, 159 were main breaks on cast iron mains and 25 were leaks on steel mains.

During the cold spell from November to mid February, 130 reports of leaks in mains in the streets were investigated and repairs were made to 94 breaks in cast iron mains. On reviewing the records of the past five years, it was noted that the total number of breaks in cast iron mains during the first six months of the fiscal year equalled the highest recorded for a full year.

The continuing annual increase in main breaks throughout the system is a direct indication of the deteriorating condition of the older cast iron mains in San Francisco. Acceleration of the main replacement program to replace 190 miles of these mains over the next 50 years was initiated in the 1979-80 budget.

Water Transmission and Treatment Study

The Department received a draft of the Suburban Transmission System and Water Treatment Study prepared by its Consultants, Brown and Caldwell-Montgomery. The transmission study considered six alternatives for increasing the system capacity to meet the needs of our customers through the year 2030. The capital costs based on 1978 construction costs for the various alternatives range from $123 million to $208 million. Much of the study relates to water quality requirements for both Hetch Hetchy and local sources, including discussions on the problems to be faced with anticipated future changes in the Federal Water Quality Standards. Review of the draft study has been completed and it is anticipated that the final study will be presented to the Department in August, 1979.

GENERAL WATER SUPPLY INFORMATION

DELIVERY FOR CONSUMPTION

In addition to serving San Francisco, the Water Department supplies water to most of the urban areas of San Mateo County; to the Cities of Palo Alto, Mountain View, Sunnyvale and Milpitas in northern Santa Clara County; and to the Hayward, Fremont and Sunol areas in southern Alameda County.

Approximately 89.4 percent of the water delivered to consumers was imported from Hetch Hetchy and the balance from Bay Area sources.

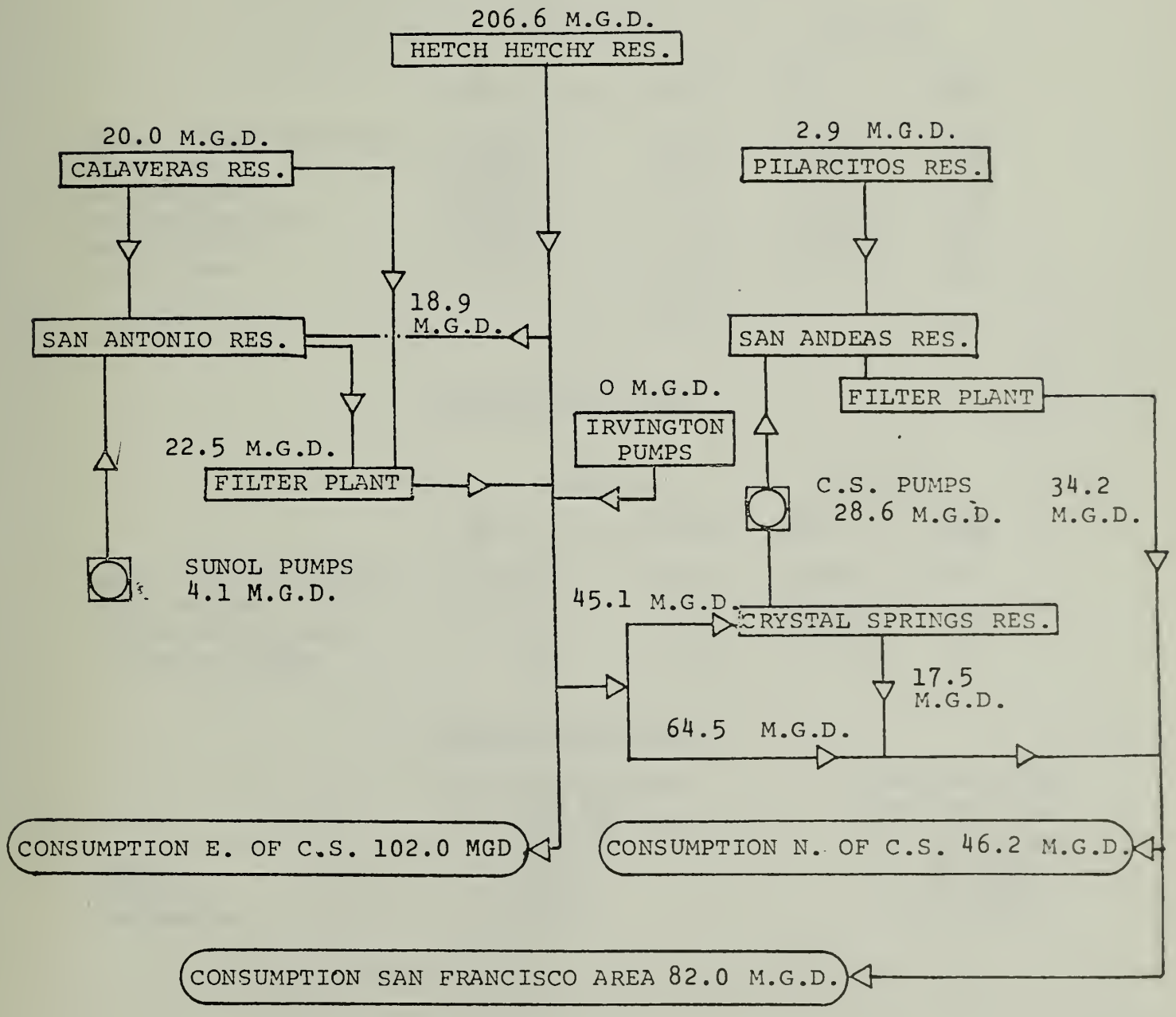
DELIVERIES FOR CONSUMPTION

1978 - 1979

	MGD Average	Percent
From Hetch Hetchy	206.6	89.4
From Alameda and Peninsula Sources	23.6	10.6
TOTAL	230.2	100.0

TRANSMISSION

1978-79 AVERAGES



TOTAL SUBURBAN	148.2	M.G.D.
SAN FRANCISCO	82.0	M.G.D.
SYSTEM TOTAL	230.2	M.G.D.

WATER PRODUCTION, TRANSMISSION AND CONSUMPTION

WATER PRODUCTION

	1977-78		1978-79	
	MG	MGD	MG	MGD
Sunol Filter Galleries	1,512.5	4.1	1,920.7	5.3
Calaveras	21,385.4	58.6	7,306.9	20.0
San Antonio	2,687.4	7.4	661.9	1.8
Crystal Springs	5,485.1	*	4,001.2	11.0
San Andreas	1,307.8	3.6	976.4	2.7
Pilarcitos	1,595.5	4.4	1,057.8	2.9
TOTAL		78.1		43.7

WATER IMPORTATION

	1977-78		1978-79	
	MG	MGD	MG	MGD
Hetch Hetchy Sources	53,109.3	145.5	75,399.3	206.6
Sunol Valley Filtration Plant	14,454.4	39.6	8,217.9	22.5
Irvington Pumps	-0-	-0-	-0-	-0-

WATER CONSUMPTION

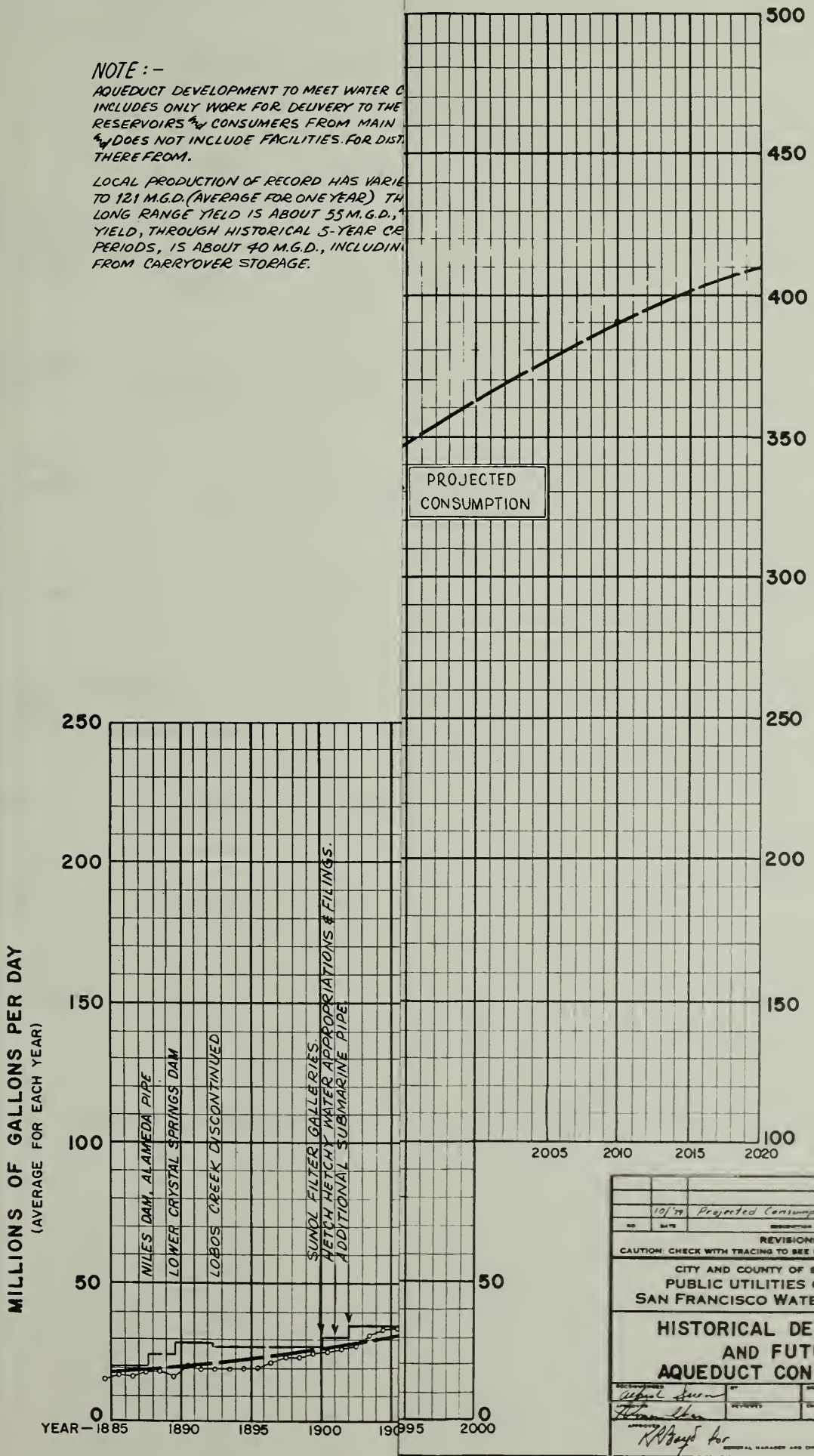
	Million Gallons Per Day	Increase over Previous Year
City	82.05	+ 8.7 MGD
Suburban	148.19	+ 40.0 MGD
Systemwide	230.23	+ 48.7 MGD

*Seven months production only; record for July through November, 1977 incomplete.

NOTE :-

AQUEDUCT DEVELOPMENT TO MEET WATER C
INCLUDES ONLY WORK FOR DELIVERY TO THE
RESERVOIRS & CONSUMERS FROM MAIN
& DOES NOT INCLUDE FACILITIES FOR DIST.
THEREFROM.

LOCAL PRODUCTION OF RECORD HAS VARIE
TO 121 M.G.D. (AVERAGE FOR ONE YEAR) TH
LONG RANGE YIELD IS ABOUT 55 M.G.D.,
YIELD, THROUGH HISTORICAL 5-YEAR CR
PERIODS, IS ABOUT 40 M.G.D., INCLUDIN
FROM CARRYOVER STORAGE.



	10/'79	Projected Consumption Curve	WSH	RA
NO.	DATE	DESCRIPTION	BY	APP'D

REVISIONS

CAUTION: CHECK WITH TRACING TO SEE IF YOU HAVE LATEST REVISION

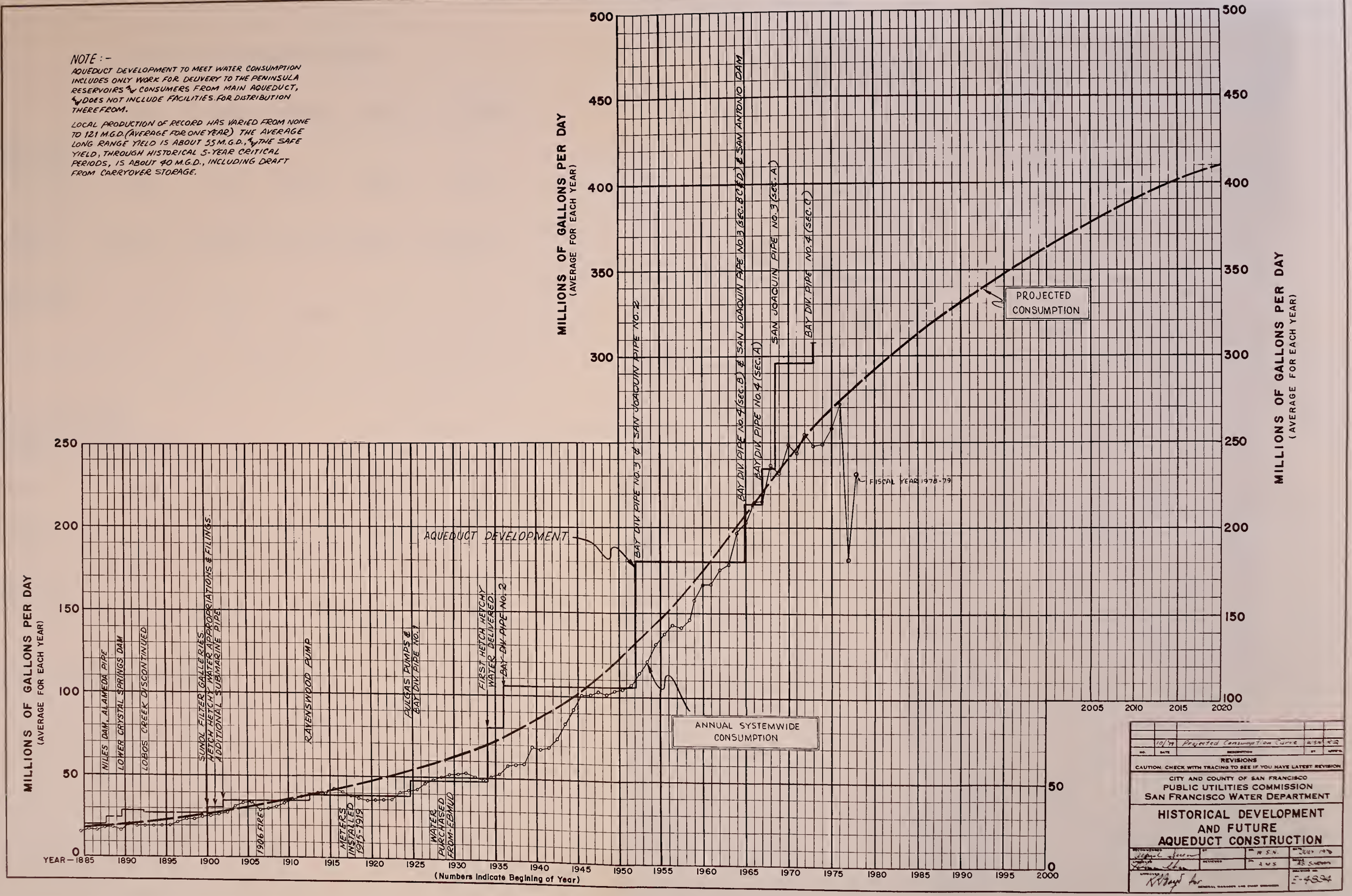
CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT

HISTORICAL DEVELOPMENT AND FUTURE AQUEDUCT CONSTRUCTION

RECOMMENDED	BY	DR. W.S.H.	DATE JULY 1976
REVIEWED		CH. A.N.S.	SCALE AS SHOWN
APPROVED R.H. Boyd for GENERAL MANAGER AND CHIEF ENGINEER			DRAWING NO. E-4894

NOTE :-
AQUEDUCT DEVELOPMENT TO MEET WATER CONSUMPTION INCLUDES ONLY WORK FOR DELIVERY TO THE PENINSULA RESERVOIRS & CONSUMERS FROM MAIN AQUEDUCT, & DOES NOT INCLUDE FACILITIES FOR DISTRIBUTION THEREFROM.

LOCAL PRODUCTION OF RECORD HAS VARIED FROM NONE TO 121 M.G.D. (AVERAGE FOR ONE YEAR) THE AVERAGE LONG RANGE YIELD IS ABOUT 55 M.G.D., & THE SAFE YIELD, THROUGH HISTORICAL 5-YEAR CRITICAL PERIODS, IS ABOUT 40 M.G.D., INCLUDING DRAFT FROM CARRYOVER STORAGE.



NO.	DATE	DESCRIPTION	BY	APPD.
	10/79	Projected Consumption Curve	WSN	RR

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PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT

HISTORICAL DEVELOPMENT AND FUTURE AQUEDUCT CONSTRUCTION

RECOMMENDED	BY	DR. W.S.N.	DATE 10/79
APPROVED	BY	CH. A.V.S.	SCALE AS SHOWN
APPROVED	GENERAL MANAGER AND CHIEF ENGINEER		DRAWING NO. S-4834

PER CAPITA USE IN SAN FRANCISCO

	1940	1950	1960	1970	1978-79
Average Daily Consumption in San Francisco (MGD)	47.9	68.9	80.7	98.9	82.0
San Francisco Population	634,536	775,357	740,316	715,674	658,700
Average Daily Use Per Capita (Gallons)	76	89	109	138	124
Classes of Consumers (Percentage of Total San Francisco Consumption):					
Residential	39.4	37.7	39.1	36.5	35.8
Commercial* & Industrial	51.8	54.5	52.4	54.5	55.0
Municipal & Miscellaneous	8.8	7.8	8.5	9.0	9.2

*Commercial includes apartments.

REVENUE AND EXPENDITURE

REVENUE

The Water Department is entirely self-supporting. All operating costs, taxes, capital costs, bond interest and bond redemption are paid from revenues. In addition, the Department furnishes free water to other San Francisco City departments that are tax supported.

Water sales were 13.32 percent more than for the previous year. Net sales in San Francisco produced 49.15 percent of the water sales revenue, with the balance of 50.85 percent coming from deliveries outside of the City.

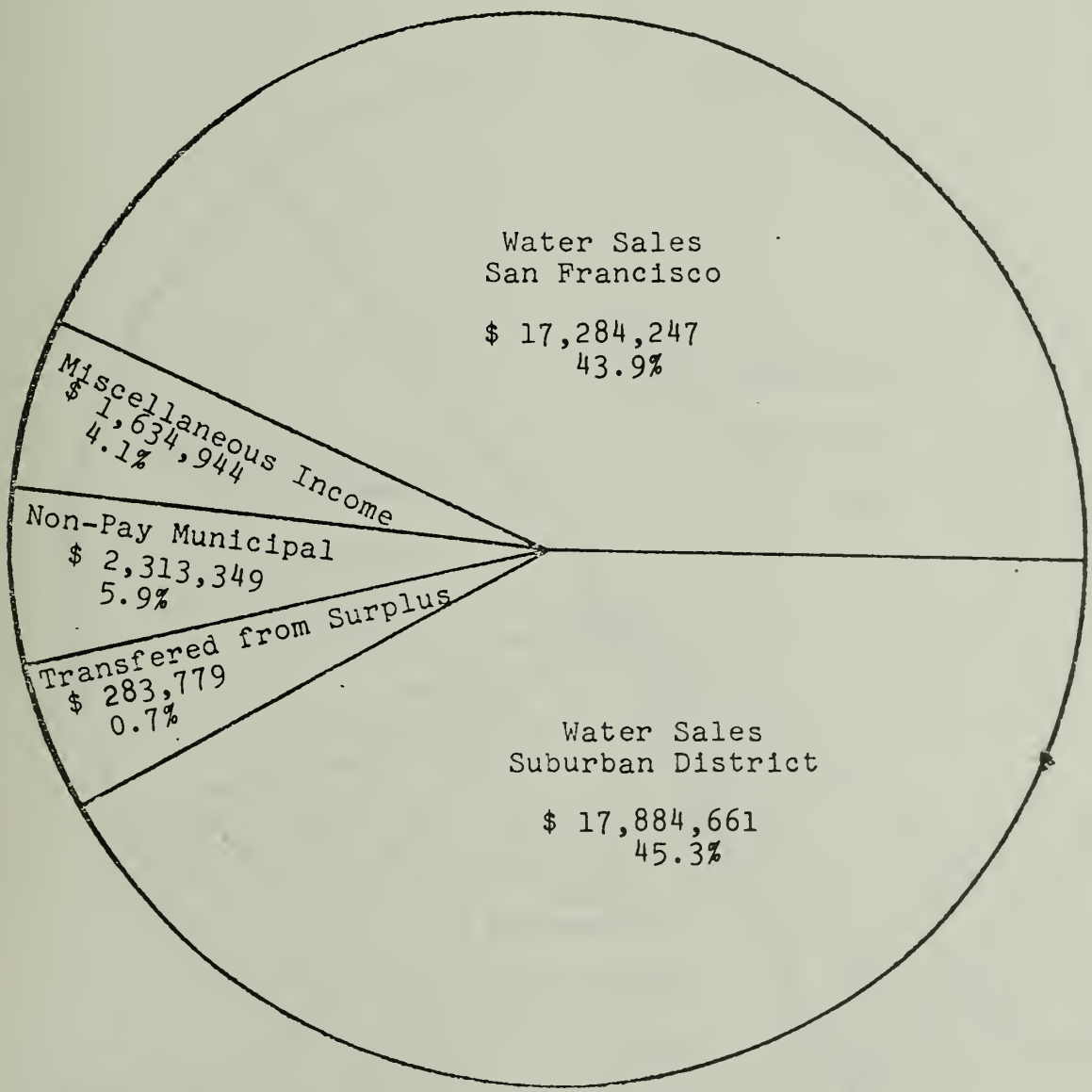
	Metered Quantities	Revenue
San Francisco	35.33	49.15%
Suburban	64.67	50.85%

Most suburban sales are to other agencies, who in turn resell the water through their own distribution systems.

The following tables give detail of revenue sources and expenditures.

SOURCE OF INCOME

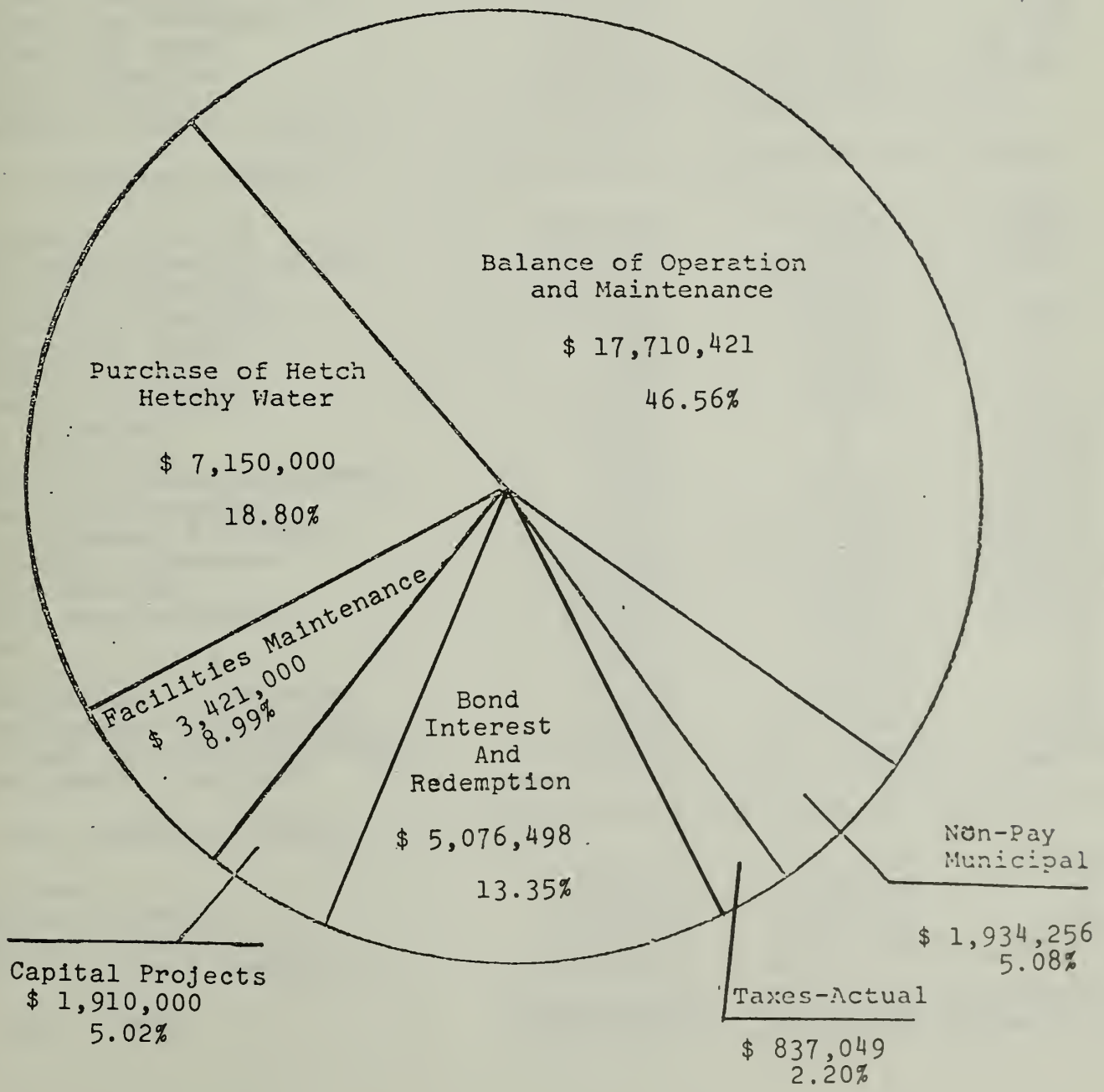
$39,400,980



1978-79

DISPOSITION OF INCOME

$38,039,224



SAN FRANCISCO WATER DEPARTMENT

COMPARISON OF BUDGETED AND ACTUAL EXPENDITURES (INCLUDING ENCUMBRANCES)
FISCAL YEAR 1978-79

DESCRIPTION	BUDGET	ACTUAL	-UNDER,OVER
Retroactive Salaries	$ 464,298	$ 378,615	$- 85,683
Permanent Salaries	3,130,447	2,959,931	- 170,516
Allowance for Overtime	28,000	19,647	- 8,353
Overtime & Holiday - Crafts	295,000	306,901	11,901
Allowance for Holidays	20,000	13,381	- 6,619
Extended Work Week	65,000	64,802	- 198
Temporary Salaries	313,391	344,758	31,367
Salaries - Crafts	5,359,249	4,719,553	- 639,696
Payments in Lieu of Sick Pay	173,357	173,357	
TOTAL PERSONAL SERVICES	$ 9,848,742	$ 8,980,945	$- 867,797
Contractual Services	487,400	479,823	- 7,577
Other Professional Services	118,751	91,091	- 27,660
Materials & Supplies	1,720,200	1,675,897	- 44,303
Compensation Insurance	160,000	159,999	- 1
Judgements & Claims	54,000	58,064	4,064
Fidelity Insurance	1,195	3,172	1,977
Automobile Insurance	31,715	31,715	-0-
Fire Insurance	11,466	12,668	1,202
Other Insurance	44,223	Ø	- 44,223
Payments to Other Governments	5,000	Ø	- 5,000
Other Fixed Charges	31,048	18,530	- 12,518
Fees, Licenses & Permits	7,000	2,401	- 4,599
Retirement Allowances	1,967,250	1,713,877	- 253,373
Social Security	506,094	421,288	- 84,806
Health Service System	370,827	333,334	- 37,493
Taxes	1,437,932	837,049	- 600,883
Contribution to CAO	9,710	9,710	-0-
Contribution to Purchaser	92,002	92,002	-0-
Contribution to Controller	7,350	7,350	-0-
Services of Other Departments	2,590,873	2,570,069	- 20,804
Unemployment Insurance	42,174	996	- 41,178
TOTAL OPERATING BUDGET	$19,544,952	$17,499,980	$-2,044,972
Equipment	238,574	210,441	- 28,133
Capital Projects	1,910,000	1,910,000	-0-
Facilities Maintenance	3,421,000	3,421,000	-0-
Bond Interest & Redemption	5,372,672	5,076,498	- 296,174
TOTAL BUDGET	$30,487,198	$28,117,919	$-2,369,279

SAN FRANCISCO WATER DEPARTMENT

COMPARISON OF ESTIMATED AND ACTUAL RECEIPTS

FISCAL YEAR 1978-79

RECEIPTS

REVENUE	BUDGET	ACTUAL	-UNDER,OVER
Collections from Sale of Water	$ 35,000,000	$ 32,863,810	$- 2,136,190
New Installations	250,000	278,394	28,394
Rents	600,000	1,007,773	407,773
Interest	180,000	260,287	80,287
Sale of Walnuts	15,000	38,575	23,575
Miscellaneous Revenue	30,000	322,760	292,760
TOTAL GROSS REVENUE	$ 36,075,000	$ 34,771,599	$- 1,303,401
RECEIPTS BY TRANSFER			
From Unappropriated Revenue (Prior Year)	$ 1,562,198	$ 496,320	$- 1,065,878
TOTAL RECEIPTS	$ 37,637,198	$ 35,267,919	$- 2,369,279
LESS			
Allocation of Revenue to Hetch Hetchy Project	$ 7,150,000	$ 7,150,000	$ -0-
TOTAL BUDGET	$ 30,487,198	$ 28,117,919	$- 2,369,279

DISTRIBUTION AND CONSUMPTION

SYSTEMWIDE METERED DELIVERIES

Within the City of San Francisco the Department distributes, delivers and meters water directly to consumers. Outside of San Francisco, water is delivered and metered from transmission mains to water purveyors who distribute to customers in their service areas.

METERED DELIVERIES

1978 - 1979

	Million Cubic Feet Year	M.G.D.	Percent	Increase Over Prior Year
City*	3,642.1	74.7	35.33	15.99%
Suburban**	6,666.8	136.6	64.67	30.34%
Systemwide	10,308.9	211.3	100.00	24.90%

* Includes 302.8 million cubic feet (2,264.9 million gallons) used by municipal non-pay accounts.

** Includes 117.3 million cubic feet (877.4 million gallons) used by suburban non-pay accounts.

WATER SOLD IN SUBURBAN AREA

FISCAL YEAR 1978-79

SAN MATEO COUNTY

MUNICIPAL UTILITIES	CUBIC FEET	CHARGES
City of Redwood City	345,431,200	$ 902,762.00
City of Burlingame	201,078,900	543,300.00
Belmont County Water District	185,891,100	498,478.00
Estero Municipal Improvement District	167,517,900	440,564.00
City of Menlo Park	157,957,800	433,506.00
North Coast County Water District	139,061,200	364,527.00
Town of Hillsborough	138,238,100	384,389.00
City of Daly City	129,321,000	360,038.00
City of Millbrae	120,449,400	330,222.00
City of San Bruno	104,346,200	301,146.00
East Palo Alto Water District	79,671,300	213,517.00
Airport	46,621,700	157,173.00
Westborough County Water District	43,167,600	118,572.00
Coastside County Water District	18,734,500	57,859.00
City of Brisbane	10,994,600	31,658.00
Dimond Public Utility District	10,433,600	34,650.00
Guadalupe Valley Municipal Improvement Dist.	9,292,900	33,971.00
Skyline County Water District	5,171,400	18,457.00
Los Trancos County Water District	2,289,100	8,681.00
Palomar Park County Water District	1,718,800	6,756.00
Cordilleras Mutual Water Association	216,600	1,166.00
TOTAL MUNICIPAL UTILITIES	1,917,604,900	$ 5,241,392.00
PRIVATE UTILITIES		
California Water	1,357,972,800	3,609,601.00
TOTAL PRIVATE UTILITIES		
Other Water Sold	48,452,300	179,826.00
TOTAL SAN MATEO COUNTY	3,324,030,000	$ 9,030,819.00

WATER SOLD IN SUBURBAN AREA

FISCAL YEAR 1978-79

SANTA CLARA COUNTY

MUNICIPAL UTILITIES	CUBIC FEET	CHARGES
City of Palo Alto	688,148,700	$1,791,449.00
City of Sunnyvale	492,676,300	1,287,552.00
City of Mountain View	429,681,900	1,099,564.00
City of Milpitas	236,724,600	614,863.00
Purissima Hills County Water District	60,997,200	166,575.00
Santa Clara Water Department	34,511,500	98,307.00
City of San Jose	31,953,900	87,742.00
TOTAL MUNICIPAL UTILITIES	1,974,694,100	$5,146,052.00
Moffett Field	60,526,200	159,423.00
Other Water Sold	114,176,300	314,768.00
TOTAL SANTA CLARA COUNTY	2,149,396,600	$5,620,243.00

ALAMEDA COUNTY

MUNICIPAL UTILITIES		
Hayward Municipal Water System	640,901,500	$1,640,028.00
Alameda County Water District	397,716,700	1,083,604.00
TOTAL MUNICIPAL UTILITIES	1,038,618,200	$2,723,632.00
Other Water Sold	37,404,200	131,154.00
TOTAL ALAMEDA COUNTY	1,076,022,400	$2,854,786.00
TOTAL WATER SOLD SUBURBAN AREA	6,549,449,000	$17,505,848.00

TOTAL WATER SALES

FISCAL YEAR 1978-79

	Metered Del. (1) 100 Cu. Ft.	Charges $
TOTAL FOR SAN MATEO, SANTA CLARA & ALAMEDA COUNTIES	65,494,490	17,505,848
TOTAL SUBURBAN	65,494,490	17,505,848
TOTAL SAN FRANCISCO	33,393,333	15,357,962
TOTAL FOR SAN FRANCISCO WATER DEPARTMENT SYSTEM	98,887,823	32,863,810 (2)
SUBURBAN NON-PAY MUNICIPAL	1,173,264	379,093
SAN FRANCISCO NON-PAY MUNICIPAL	3,028,098	1,934,256
TOTAL NON-PAYING	4,201,362	2,313,349

(1) Metered delivery does not include system loss which for 1978-79 amounted to 9.0 percent of total water sales.

System losses consists of leakage, losses due to pipe breaks, underregistration of meters, water used at hydrants that is not billed (fire use in San Francisco averaged 0.03 mgd), blowoff water, water used for Water Department operating purposes, evaporation from distribution reservoirs and other similar losses. Pleasanton well field agricultural use water is not included in the tabulation of water sold.

(2) Represents total billing for water sold without adjustment for allowances, etc.

CITY DISTRIBUTION DIVISION

Responsibilities and Functions

This Division is responsible for operating and maintaining all pump stations in the City, the hilly terrain of the City requires pumping to the various higher pressure zones. The larger pump stations pump water to the reservoirs from which water is distributed. The smaller pump stations are usually hydropneumatic facilities that serve small areas from air pressurized tanks.

The Division operates and maintains many reservoirs and tanks in the City to distribute water to consumers.

The meter program includes removing and resetting, disconnecting and reconnecting, inspection, testing, and repairs of meters.

The maintenance of service programs includes testing, inspecting, restoring, rearranging, repairing, and replacement of water services.

The maintenance of mains program involves replacement and reconstruction of water distribution mains in the City.

Additionally, the responsibility for maintaining the Department's physical plant, operating equipment, and automotive equipment belong to the major shops operated by this Division. The Division also operates the Department's central warehouse and pipe yard.

The field forces work on new construction of mains and services, maintenance of facilities, and emergency services. A Department's gateman responds to all fires of two alarms or more to regulate valves to provide increased water pressure as needed.

Major Facilities

City Corporation Yard: includes Division's administrative office, central control headquarters; machine, meter, auto, carpenter and welding shops; truck and auto storage; warehouse and pipe yard.

13 reservoirs and large tanks with a total capacity of 414 million gallons

47 structures

7 small tanks

4 pump stations with capacity from 10 to 50 million gallons per day each

17 small pump stations

Major Facilities - Continued

Approximately 1,200 miles of water mains

62.6 acres of landscaping

Number of Personnel

Office staff	21
Shops	53
Field	139
CETA	6
Total	219

Divisional Highlights

Main Leaks and Breaks:

Main breaks and leaks continue at a high rate in the Fiscal Year 1978-79; this Division responded to 305 reports of leaks in the street and repaired a total of 184 main leaks. Of the total, 159 were main breaks on cast iron mains and 25 were leaks on steel mains.

During the cold spell from November to mid February, 130 reports of leaks in mains in the streets were investigated and repairs were made to 94 breaks in cast iron mains.

On reviewing the records of the past five years, it was noted that the total number of breaks in cast iron mains during the first six months of the fiscal year equalled the highest recorded for a full year.

The reconditioning of the 48" steel main in Potrero Avenue and Bayshore Boulevard was accomplished during this fiscal year. This main had a record of 19 leaks over a period of 18 months. No leaks have been experienced for the five month period since the completion of the contract.

Service Renewal:

A total of 2,341 services were renewed in Fiscal Year 1978-79, of which 413 were renewed under excavation contracts. Yard forces renewed 1,928 services. Renewal of services in restricted areas and congested areas were performed by Yard forces.

The unit costs to install services has continued to increase. Under present economic conditions and restrictive regulations as imposed by the Department of Public Works, the cost will continue on its upward spiral.

Main Flushing Program:

The area flushing program was temporarily suspended in December after having flushed 613,105 lineal feet of mains. The temporary suspension of work was in compliance with the holiday restrictions. The work, however, was not resumed in January because of the shortage of key personnel.

Areas flushed during the year included area served by Sutro Reservoir in the Sunset, Parkside, West of Twin Peaks, Ingleside and Ocean View; area served by Merced Manor Reservoir; and the area South of Market and in the Potrero which are served by University Mound Reservoir.

Work for Other Departments:

A. Sewer Consolidation Program

Installation of mains to supply water to the Channel Pump Station and to the Southeast Treatment Plant was completed this year.

Installation of all mains in ongoing contracts is progressing satisfactorily and permanent ductile iron mains have been installed in a number of locations.

Relocations and plan changes at the Islais Creek Project have forced the Water Department to make a number of adjustments to our facilities to accommodate the construction of the sewer and also, the Department responded to 17 instances of water mains and services being damaged by the contractors' operation.

B. Redevelopment Agency

The installation of water mains for the India Basin Industrial Park area was completed this year. Due to changes in the master plans, some of the installations based upon the original plan had to be abandoned. Also, modifications in the street pattern required adjustments in the alignment and size of mains.

At Hunter's Point Project site improvement contracts for all projects under the original master plan were either completed or under construction as of the close of the year. The installation of mains required to provide the necessary circulation of both pressure systems and to permit removal of the pressure regulating stations was completed.

The project formerly known as the Yerba Buena Center was changed to George Moscone Center shortly after his death. The Water Department made all adjustments necessary to clear the work area of all Water Department facilities. The work included killing services, relocating hydrants and relocating the 16" mains in the intersection of Third and Howard Streets.

C. Housing Authority

All work of installing the water mains and service in the Harbor Slope area was completed this year and with provisions to extend the mains easterly of this area.

The Division also worked with the Housing Authority and Fire Department in determining the work necessary to provide service to the Inchon Village, an area easterly of the present jurisdictional area.

D. Municipal Railway

The Municipal Railway issued a number of contracts to upgrade and rehabilitate their facilities in the City. The Water Department worked closely with their contractors without causing delay in the performance of the work and to minimize the cost and service interruptions.

Fiscal Year Operating Results

		1977-78	1978-79
1.	Main breaks and leaks repaired	121	184
2.	Number of services	159,019	159,297
3.	New services installed	779	864
4.	Services repaired	1,653	1,532
5.	Services renewed by SFWD Services renewed by Contract	2,693 79	2,341 10
6.	Linear feet of mains flushed	132,561	623,105
7.	Individual services flushed	71	207
8.	Valves inspected (operated and checked)	3,637	6,958
9.	Number of valves	15,854	15,954
10.	Valves repaired and rebuilt	184	371
11.	Service maintenance	15,870	10,376
12.	Meters installed	4,287	3,964
13.	Meters replaced	3,081	2,716
14.	Meters repaired In shop In field	 3,674 9,029	 3,088 4,119
15.	Meters in service	161,272	161,559
16.	Hydrants installed and relocated	45	45
17.	Main extensions - Feet	10,543	11,069
18.	Mains replaced - Feet	21,899	8,558
19.	Connections	54	27
20.	Leak detection survey (miles of main)	96	60.2

Fiscal Year Operating Results - Continued

21. During the year the shop repaired, rebuilt, or fabricated diesel engines, motors, pumps, special pipe fittings, valve operators, etc. The auto shop performed all routine as well as major maintenance on the Department's fleet of trucks and autos.

22. Water main inventory - City Distribution System

Main inventory 7/1/78	1,182.48 miles
New main added 1978-79	4.02 "
Old main removed 1978-79	2.45 "
Main inventory 6/30/79	1,184.05 "

23. Electric Power Used, City Pump Stations 21.218 Million KWHR

SUBURBAN DIVISION
WATER IMPOUNDMENT AND TRANSMISSION

Responsibilities and Functions

The responsibilities for water impoundment and transmission rest with the Department's Suburban Operations Division, which is made up of two operating parts. The Peninsula operations is responsible for facilities in San Mateo and Santa Clara Counties, the Alameda operations for facilities in Alameda County.

The principal function of the Division is to operate and maintain the transmission pipelines, pump stations, and reservoirs to deliver water to our suburban customers and to San Francisco. The Division also manages the watersheds, pipeline rights-of-way, and other lands of the City.

Major Facilities Operated and Maintained

Crystal Springs, San Andreas, Pilarcitos, Calaveras and San Antonio Dams and Reservoirs. Total storage 77.8 billion gallons.

Four Bay Division pipelines, total lengths 112 miles.

Coast Range, Pulgas, and Crystal Springs Bypass Tunnels. 8.6 miles total.

Five major pipelines north of Crystal Springs to San Francisco, 126 miles.

Six pump stations. 1978-79 electric power used 16.014 million KWHR.

Millbrae Corporation Yard.

Sunol Headquarters for Alameda Division.

23,000-acre Peninsula watershed property.

38,000-acre Alameda watershed property.

Personnel Resources

Salaries	37
Crafts	81
Total	118

1978-79 Operating Results

There were several leaks of consequence on the transmission pipelines during the year. Leaks on the Bay Division Pipeline No. 4 near Agnew and on Pipeline No. 1 near the Caisson, were repaired from the inside during shutdowns for other purposes. All others were repaired from the outside with no interruption in service. All but one were the result of electrolytic action on the metal of the pipes.

The "Hazardous Fire Area" designation imposed on the watershed area by the State Department of Forestry in June 1977 was continued until November 1 and was reimposed on June 1, 1979.

Vandalism and trespassing on watershed lands continues to increase. The number of trespassers evicted during the year ran into the thousands.

In addition to the major facilities, the work of Suburban Divisions is connected with the operations and maintenance of the following listed facilities and equipment:

62,000 acres of watershed and other lands. Vandalism and trespassing are increasing every year.

185 miles of all-weather roads. These are mostly gravel roads requiring periodic grading and reestablishment of drainage ditches, etc.

63 miles of property fences. Fences are periodically checked; broken or missing fences are repaired or replaced.

Over 100 miles of lease boundary fencing. Fence materials are furnished by San Francisco Water Department; installations and maintenance by lessee.

Nearly 100 miles of fire roads are maintained on the watersheds.

Ground and landscape maintenance is supplied for Peninsula and Alameda Yards, public areas of Sunol and Pulgas Water Temples, two filtration plants, pump stations, balancing reservoirs and other areas.

622 resale and retail services.

120 miles of right-of-way.

1978-79 Operating Results - Continued

	Million Gallons 1977-78	Million Gallons 1978-79
WATER PRODUCTION		
Filter Plant to Siphon	14,387	8,185
Irvington Pumps	-0-	-0-
Calaveras Spill over 10' Weir	-0-	-0-
Needle Valve & Tunnel Drainage over 10' Weir	1,724	557
Brightside Weir - Released into Alameda Creek	222	204
Total Production from Alameda Sources	16,333	8,947
Received from Hetch Hetchy	63,389	76,294
TOTAL	79,722	85,241
WATER DISTRIBUTION & TRANSMISSION		
Total Alameda Division Consumers	8,893	9,910
Irrigation Alameda Creek	240	424
Bunting Pit & Consumption between Brightside and Niles	89	88
Delivered to Peninsula	51,933	71,893
Pleasanton Wells to Castlewood	129	135
Pleasanton Wells "O" Line to Irrigation	41	8
Pleasanton Wells "F" Line to Irrigation	16	122
From Sunol 36" and San Antonio Pipeline to Irrigation	73	122
TOTAL	61,414	82,702

1978-79 Operating Results - Continued

	Million Gallons 1977-78	Million Gallons 1978-79
PENINSULA WATER PRODUCTION		
Crystal Springs Reservoir	10,078	3,920
San Andreas Reservoir	1,312	960
Pilarcitos Reservoir	1,510	963
TOTAL	12,900	5,843
DELIVERIES TO CUSTOMERS BY PIPELINE		
San Andreas #1	-0-	-0-
San Andreas #2	8,147	10,418
San Andreas #3	876	1,148
Sunset	4,264	6,001
*Crystal Springs #2	16,853	21,960
Airport from Crystal Springs #2	918	1,057
Bay Division Pipeline #1 & #2, Alameda County	17,538	18,431
Bay Division #1 & #2, San Mateo County	11,263	15,478
Palo Alto	8,998	10,923
Bay Division #3 & #4, Alameda County	2,671	3,366
Bay Division #3 & #4, San Mateo County	6,919	8,710
Bay Division #3 & #4, Santa Clara County	27,290	35,768
Crystal Springs Aqueduct to Golf Course	123	196
Pulgas Canal Outfall	13	6
Alameda County--miscellaneous	1,153	1,968
Stone Dam Aqueduct	351	384
TOTALS	107,383	135,819

*Crystal Springs #2 does not include Airport consumption.

1978-79 Operating Results - Continued

	1977-78	1978-79
Large Meters Tested	156	156
New Services	4	8
Transmission Line Leaks	30	20

Permits Issued

		1977-78	1978-79
1	Groups	156	195
1a	No. of People	6,646	7,261
2	Cross-Country Meets	19	26
2a	No. of Participants	2,500	6,050
3	New Equestrians	62	83
4	Current Equestrians	485	449

Trespassers & Citations

	1977-78	1978-79
Trespassers Evicted	4,672	4,976
Contact Cards Filled Out	69	71
Citations Issued	262	469

WATER QUALITY AND TREATMENT

WATER QUALITY DIVISION

Responsibilities and Functions

To insure the safety and purity of the water delivered to consumers by applying the necessary treatments and by employing a systematic program of sampling and testing to verify compliance with State and Federal standards.

The Division also has the responsibility for the Department's radio communication and security.

Major Facilities

A. Division Headquarters and Laboratory - Millbrae Yard

B. Sunol Valley Water Treatment Plant - 160 MGD Capacity

C. San Andreas Water Treatment Plant - 80 MGD Capacity

D. Various Chlorination, Fluoridation, Turbidity control, and Lime treatment stations.

Personnel Resources

46 employees

Divisional Highlights

Due to the demands of the California Department of Health Services, who have responsibility for enforcement of the National Interim Primary Drinking Water Regulations (pursuant to Public Law 93-523), the Board of Supervisors approved the employment of three Water Quality Chemists beginning January 1, 1979. As of the end of the fiscal year, the chemists have not been hired because of procurement problems.

The Department of Health Services was also very critical of the laboratory facilities and threatened to withhold the Water Department's laboratory certification if remedial action was not taken immediately. The contract for new facilities was let and construction began on May 17, 1979. The renewed State permit was granted until June 30, 1981.

With the completion of these projects, the Water Department should be able to meet present Federal and State requirements, and the next fiscal year should see the culmination of many years effort to improve water quality parameters.

For the future the Department will be facing limits for asbestos and trihalomethanes in its water supply. Investigation of these two problems was instituted during the latter part of this year.

Fiscal Year Operating Results

Sunol Valley Water Treatment Plant	1977-78	1978-79
Volume water treated	14,225 MG (39.0 MGD)	8,229 MG (22.5 MGD)
Chemicals used:		
Chlorine	375,703 lbs.	203,713 lbs.
Alum	2,455,126 lbs.	981,202 lbs.
Lime	931,205 lbs.	421,013 lbs.
Others	222,485 lbs.	27,981 lbs.
San Andreas Water Treatment Plant		
Volume water treated	10,592 MG (29.0 MGD)	12,743 MG (34.9 MGD)
Chemicals used:		
Chlorine	56,813 lbs.	79,418 lbs.
Alum	285,202 lbs.	304,376 lbs.
Sodium Hydroxide	338,141 lbs.	401,538 lbs.
Others	109,717 lbs.	122,874 lbs.
Million Gallons Per Day Disinfected (chlorinated)	247	300

Chlorination Stations	Chlorine Used (lbs.) 1977-78	1978-79
Hetch Hetchy Aqueduct (Tesla Portal)	902,178	1,138,397
Sunol Aqueduct	3,729	4,071
Peninsula Aqueducts (*five stations)	245,732	336,008
City Distribution (ten stations)	38,590	70,068

Hypochlorination Station

5 Hetch Hetchy Mountain and 2 Bay Area locations used a total of 1,951 gals. 12.5% Sodium Hypochlorite Solution. 1,605 gals. used in Fiscal Year 1977-78.

	1977-78	1978-79
New Mains Disinfected	52,195 l.f.	32,730 l.f.

* Includes Casey Quarry

Fiscal Year Operating Results - Continued

Fluoridation

Fluoridated water is served only to consumers north of Crystal Springs and to the City.

Fluoride treatment is applied at four fluoride stations and at the San Andreas Water Treatment Plant.

	1977-78	1978-79
Water treated	38,299 MG	45,184 MG
Hydrofluosilic acid used	1,043,361 lbs.	1,251,254 lbs.
Sodium Silicofluoride used	81,560 lbs.	154,302 lbs.

Corrosion Control Hetch Hetchy Aqueduct

To neutralize the corrosive action of the extremely soft Hetch Hetchy water, lime is added at the Rock River Lime Plant.

	1977-78	1978-79
Volume of water treated	53,167 MG	75,342 MG
Lime used	2,096,024 lbs.	2,782,430 lbs.

Reservoir Turbidity Control

Three alum treatment installations which control runoff turbidity into Crystal Springs and San Andreas Reservoirs were in use during the year. In 1975-76 the first year of the two year drought only 5,400 gals. of alum was used in these stations. By comparison, 111,327 gallons of alum was used in 1978-79.

Reservoirs Algae Control

The five Bay Area Reservoirs were treated with a total of 48,200 lbs. of copper sulfate to control aquatic growth. In Fiscal Year 1977-78, 44,400 lbs. were used.

	1977-78	1978-79
Number of customer complaints	153	114

Sampling and Testing

During the year thousands of water samples were taken from reservoirs, transmission pipelines and the City's distribution system.

Fiscal Year Operating Results - Continued

Sampling and Testing (Cont.)

The Millbrae Laboratory performed the following number of tests:

	1977-78	1978-79
Chemical	32,519	31,924
Microbiological	25,337	26,631
Physical	33,830	37,493
Number of water samples	25,847	17,839

CONTRACTS

CONTRACTS

1978-79

During the fiscal year, the Engineering Division handled 19 formal construction contracts valued at $7,805,743.45. Eleven were new contracts awarded during the year, of which 5 were completed and 6 were under construction. Eight contracts were carried over from the previous year, 7 of which were completed during the fiscal year.

The work done under formal contracts has been separated into four main categories, as follows:

No. of Contracts	Description	Total Value of Contracts
2	Additions and Betterments to Supply transmission, treatment and miscellaneous facilities	$ 57,025.82
6	Reconstruction and Replacement of Water Facilities	1,799,222.50
4	Bond Fund Projects	4,770,994.72
7	City Distribution Division --- Replacements and Additions	1,178,500.41
	Total	$7,805,743.45

INFORMAL CONTRACTS

One informal contract was awarded to chain link enclosure of Chlorine Storage Building at Millbrae Yard.

CONTRACT DATA 1978-79

WATER DEPARTMENT CONTRACTS

CONTRACT NO.	TITLE OF CONTRACT	DIVISION	NUMBER OF BIDDERS	CONTRACTOR	DATE OF AWARD	DATE OF COMPLETION	PERCENT COMPLETE 6-30-79	BID PRICE	TOTAL COST TO 6-30-79
1640	Crystal Springs Pump Station Renovation	Peninsula	8	Dalzell Corp.	2-22-77	1-8-79	100%	$742,172.00	$716,496.93
1718	Remote Control of Line Valve in Bay Division Pipeline #4 at E. Pulgas, San Mateo County	Peninsula	3	Amelco Co.	6-14-77	--	55%	$ 24,499.00	$ 12,800.00
1722	Rehabilitation of Dumbarton Pipeline Bridge & Pipes	Peninsula	4	D.W. Nicholson Corporation	4-12-77	1-19-79	100%	$792,149.00	$866,720.99
1723	Renovation of Summit Pump Station	General	4	Dalzell Corp.	5-23-78	3-23-79	100%	$38,900.00	$32,526.82
1729	Repaving of Street & Sidewalk Openings for SFWD for Fiscal Year Ending 6-30-79	General	1	Pacific Pavements Co., Ltd.	5-23-78	6-30-79	100%	$791,400.00	$791,400.00
1734	Modification of Air Conditioning System, 425 Mason Street	General	2	Pribuss Engineering Inc.	11-22-77	8-30-78	100%	$ 25,309.00	$ 22,709.00
1737	Installation of 18" Steel Main in Niagara, Cayuga & Other Sts.	C.D.D.	7	McGuire & Hester	11-8-77	9-28-78	100%	$238,775.00	$231,095.20
1739	Building Repairs Central Pumping Station, San Francisco	General	6	Leon Carlen	2-28-78	9-29-78	100%	$ 45,476.60	$ 47,081.00
1740R	Suburban Facilities	Peninsula	6	Ralph Larson & Sons, Inc.	3-27-79	--	--	$3,168,476.80	--
1743R	Cement Mortar Line 36", 44" & 48" Pipes in Potrero, Bayshore & Other Streets	C.D.D.	2	Ameron, Inc. Pipe Lining Division	12-12-78	4-24-79	100%	$342,128.70	$346,499.42

CONTRACT DATA 1978-79

WATER DEPARTMENT CONTRACTS

CONTRACT NO.	TITLE OF CONTRACT	DIVISION	NUMBER OF BIDDERS	CONTRACTOR	DATE OF AWARD	DATE OF COMPLETION	PERCENT COMPLETE 6-30-79	BID PRICE	TOTAL COST TO 6-30-79
1744	12" DIM Installation in Hyde St. between Pacific Ave. & Greenwich Street	C.D.D.	5	W.J. Gaffney, Inc.	2-27-79	--	80%	$308,970.00	$159,119.80
1746R	CDD Control Room, Lake Merced Pump Station	C.D.D.	6	W.R. Thomason, Inc.	12-12-78	--	92%	$ 19,300.00	$ 16,777.00
1747	Resurfacing Ravenswood Access Road in San Mateo County	Peninsula	4	Les McDonald Const. Co.	8-8-78	11-10-78	100%	$ 32,947.50	$ 32,547.50
1753	16" DIM Relocation at 3rd & Howard Sts.	C.D.D.	3	W.L. Fairey	9-12-78	4-6-79	100%	$ 39,995.00	$ 41,886.30
1754	6", 8" & 12" DIM Installation in Homewood Place	C.D.D.	7	Dalton Const. Company	2-13-79	--	0%	$108,347.50	--
1755	Replacement of Log Boom San Andreas Reservoir	Peninsula	18	Bowen Const. Company	3-13-79	6-8-79	100%	$ 43,485.00	$43,485.00
1763	Excavation & Repaving for Water Service Trenches	C.D.D.	2	Bepco, Inc.	3-13-79	6-21-79	100%	$ 77,610.00	$ 79,402.00
1767	Excavation & Repaving for Water Service Trenches	C.D.D.	1	Lowrie Paving Company	6-12-79	--	0%	$ 62,300.00	--
1770	Repaving of Street & Sidewalk Openings for SFUD for Fiscal Year Ending 6-30-80	General	1	Pacific Pavements Co., Ltd.	6-12-79	--	0%	$862,000.00	--

PROFESSIONAL SERVICES CONTRACTS
1978-79

CONTRACTS COMPLETED

Contract No.	Title	Firm	Date	Amount	%Complete 6-30-79
PS-154	Revenue Requirements and Rate Design Study	Brown & Caldwell	6-28-77	$ 20,661	
PS-156	Water Waste and Trunk Main Survey	Pitometer Associates	6-13-78	$ 30,000	

ONGOING CONTRACTS

PS-143	Recreational & Environmental Planning Peninsula Watershed Lands	Eckbo, Dean, Austin & Williams	10-9-73	$ 37,000	90%
PS-152	Design Millbrae Suburban Headquarters.(Incl. construction support)	Garretson, Elmendorf Zinov, Reiben	11-9-76	$190,000	90%
PS-155	Bay Division Booster Station Transmission Pipelines & Hetchy Hetchy Water Treatment Plant Study	Brown & Caldwell - Montgomery	9-27-77	$139,000 ($120,000 + 19,000 Mod.)	95%
PS-157	Water Waste and Trunk Main Survey	Pitometer Associates	6-12-79	$ 39,675	-

LAND, LEASES, PERMITS AND PROPERTY TAXES

LAND, LEASES, PERMITS AND TAXES

Responsibilities and Functions

Negotiates and manages property and agricultural leases, permits, advises and represents management on land matters such as sale, acquisitions, property taxes, encroachments, appraisals, and litigations; field staff maintains day-to-day contact with lessees to resolve problems and protect the City rights.

Staff

Manager and office staff of two

Three field men

Services of the Director of Property staff

Divisional Highlights

In accordance with Water Department's continuing policy of seeking maximum secondary utilization of our primary watershed lands in Alameda/Santa Clara Counties, the Department engaged the professional services of A. Doyle Reed, Agricultural Economist, for analysis of the agricultural lease operations of the Land Division.

The agricultural consultant report will contain an in-depth analysis of the various facets of this Division's management and lease operation.

Beside the usual agricultural and pipeline right-of-way leases regularly processed, in the past year the Water Department granted permits or leases to several Peninsula and East Bay municipalities, for the use of our 80' wide pipeline right-of-way for bicycle, equestrian and pedestrian paths.

Furthermore, in the interest of conservation and protection of wildlife resources, approximately 115 acres of marsh land under the jurisdiction of the Water Department was leased to Fish and Wildlife Service, Department of Interior, U.S.A. at no cost.

Property Management

	1977-78	1978-79
Non-revenue permits issued	80	43
Permits revoked	33	17
Legal descriptions and maps prepared	35	52

Property Taxes Paid

	1977-78	1978-79
Alameda County	$ 979,121.72	$417,611.16
Santa Clara County	189,064.28	330,229.08
San Mateo County	566,023.06	89,774.50
Total	$1,734,209.06	$837,614.74

Total acres land owned 7/1/77	62,264.35
Total acres sold during year	Ø
Condemnation	Ø
Total acres land owned 6/30/78	62,264.35

Fiscal Year Operating Results

	1977-78	1978-79
1. Receipts from leases and permits	$1,056,945.75	$1,184,385.06*
2. Income from Walnuts	22,212.00	35,090.45
3. Number of new & renegotiated leases	5	16
4. Number of new permits	84	47
Permits cancelled	26	20
5. Total number of current leases	73	75
Agricultural	40	40
Other	33	35
6. Total number of permits	1,864	1,862
7. Total number of acres	30,833	31,177
Agricultural	29,988	30,532
Other	845	645
8. Number of property litigation cases	8	6

* As a result of Proposition 13, the total reimbursement of taxes (included in receipts) was reduced by $60,536.62 from the prior fiscal year.

FINANCIAL STATEMENTS

ACCOUNTING AND AUDITING

The accounts of the San Francisco Water Department are maintained in accordance with the requirements of the California State Public Utilities Commission and Section 3.596 of the City Charter. The accounts of the Department have been so coordinated with the Controller's system that no encumbrance or expenditure against budget estimates can be incurred without prior certification from the Controller that funds are available. As provided in Charter Section 3.305, an annual audit of the Department is made as of June 30 by a firm of certified public accountants.

1978-79 Operating Expenses show a net decrease of $2,619,967.81 as shown by the following tabulation:

Operating Revenue Deductions

	Increase	Decrease
Source of Supply	$	$ 331,935.86
Pumping Expenses	607,733.65	
Purification Expenses	226,210.37	
Transmission and Distribution Expenses		196,974.25
Customer Accounts - Expenses		188,407.27
Administrative and General		801,326.20
*Municipal Taxes, Comparison		502,860.93
Miscellaneous Expenses		736,689.68
Taxes Actual		896,769.02
Provision for Depreciation	226,051.38	
Standby Charge & Purchase of Water		25,000.00
	$1,059,995.40	$3,679,963.21
Net Decrease	2,619,967.81	
TOTALS	$3,697,963.21	$3,679,963.21

*Water delivered to Municipal Departments offset by taxes.

An analysis of Revenue and Operating Expenses is shown in the following Exhibits "A" through "E."

FINAL

PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT

STATEMENT 15

EXHIBIT "A"
BALANCE SHEET
JUNE 30, 1979

MAYOR
RS
LJ
EJK
BJG
AS-2
GLM
PTM
PW
UT. AUDIT
STMT.
EXTRA-10
DMY

PW :etf
5/6/80

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ASSETS AND OTHER DEBITS

UTILITY PLANT			
Water Plant in Service		$248,854,304.00	
Less Reserve for Depreciation		84,667,233.99	$164,187,070.01
Construction Work in Progress:			
Water Department		3,325,446.86	
1961 Bond Fund			
1972 Bond Fund		2,286,514.56	5,611,961.42
TOTAL AND ACCRUED ASSETS			$169,799,031.43
CURRENT AND ACCRUED ASSETS			
Cash (See Schedule 1)		$ 19,676,588.93	
Accounts Receivable (See Schedule 2)	$3,676,062.31		
Less Reserve for Uncollectible Accounts	75,477.40	3,600,584.91	
Notes Receivable		1,139.10	
Interfund Accounts Receivable (See Schedule 3)		8,774,521.46	
Materials and Supplies		1,081,566.00	
TOTAL CURRENT AND ACCRUED ASSETS			33,134,400.40
DEFERRED DEBITS			
Work in Progress		$ 157,550.49	
Suspense Debits (See Schedule 4)		511,743.07	
Encumbrances (Contra)			
Budget Allocations to Other Depts. (See Schedule 10)			
TOTAL DEFERRED DEBITS			669,293.56
TOTAL ASSETS AND OTHER DEBITS			$203,602,725.39

LIABILITIES AND OTHER CREDITS

LONG TERM DEBT		
Bonds (See Schedule 5)		$42,911,770.00
CURRENT AND ACCRUED LIABILITIES		
Customers' Deposits	$ 98,273.66	
Accounts Payable (See Schedule 6)	1,993,959.36	
Interfund Accounts Payable (See Schedule 7)	2,819,483.13	
Matured Long-Term Debt-1928 Bond	3,000.00	
Matured Long-Term Debt-1972 Bond	5,000.00	
Matured Interest - 1972 Bond	38,327.50	
Interest Accrued - 1928 Bond		
Interest Accrued - 1961 Bond	194,030.29	
Interest Accrued - 1972 Bond	213,455.10	
TOTAL CURRENT AND ACCRUED LIABILITIES		5,370,529.04
DEFERRED CREDITS		
Clearing Accounts	$ 46,442.59	
Suspense Credits		
Advance for Construction	244,434.62	
Orders for Work - Cash Advances	279,731.91	
Orders for Work - Accounts Receivable		
Orders for Work - Stock Manufacture		
Rental Deposits and Payments made in advance	66,491.00	
Utility Tax Billed	(2,635.27)	
Sewer Service Charges Billed	(86,976.94)	
Industrial Waste Fee Billed		
TOTAL DEFERRED CREDITS		547,487.91
RESERVES		
Injuries and Damage Reserves	$ 170,000.00	
Reserve for Refunds:		
Funded		
Unfunded		
Reserve for Contractors' Damage Claims	55,474.75	
Reserve for Encumbrances (Contra)		
TOTAL RESERVES		225,474.75
CONTRIBUTIONS IN AID OF CONSTRUCTION		
NET CAPITAL INVESTMENT (See details on Sheet 2)		154,547,463.69
TOTAL LIABILITIES AND OTHER CREDITS		$ 203,602,725.39

F I N A L

STATEMENT 15

PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT

EXHIBIT "B"
NET CAPITAL INVESTMENT
JUNE 30, 1979

	1972 M.W.S. BOND FUND	1961 M.W.S. BOND FUND	SAN FRANCISCO WATER DEPARTMENT	TOTAL
NET CAPITAL INVESTMENT - JUNE 30, 1978	$13,012,815.09	$ 42,630.74	$ 136,440,557.15	$149,496,002.98
ADD: Adjustment of Prior Years Surplus				
Bond Sold (Series "D")	8,000,000.00			8,000,000.00
Net Income for 12 months ending June 1979			5,348,987.31	5,348,987.31
Completed Contracts Capitalized			1,201,717.97	1,201,717.97
Equipment Transfer				
Interest Capitalized by Bond Fund	752,983.46			752,983.46
Interest on Construction Work in Progress				
Transfer to Completed Contracts				
Contribution from 1961 Bond Fund				
	$21,765,798.55	$ 42,630.74	$142,991,262.43	$164,799,691.72
DEDUCT: Book Value of Plant Appraisal - June 30, 1968			752,983.46	752,983.46
Interest Capitalized by Bond Fund			8,000,000.00	8,000,000.00
Bonds Sold (Series "D")	621,041.81	580,676.16		1,201,717.97
Completed Contracts Capitalized			297,526.60	297,526.60
Adjustment of Prior Years Surplus				
Cancellation of Capitalizing Contract - Shown Above				
Allocated to General Fund				
Prepaid Interest				
NET CAPITAL INVESTMENT - JUNE 30, 1979	$21,144,756.74	$ (538,045.42)	$133,940,752.37	$154,547,463.69

COMPOSITION OF NET CAPITAL INVESTMENT

INITIAL CAPITAL INVESTMENT - MARCH 3, 1930			
Amortization of Allocations (Spring Valley)	$4,152,652.24		
Valuation of Municipal Water Works	100,000.00		
	$4,252,652.24		
LESS: Additional Allowance for Depreciation - March 1, 1920 to March 3, 1930	2,327,916.67	$1,924,735.57	
Additions:			
Net Income - March 3, 1930 to June 30, 1979	$164,543,014.96		
Miscellaneous and year to year adjustments	5,669,248.16		
Allocations from Hetch Hetchy Power Division	409,471.41		
Allocations from 1947 Hetch Hetchy Water Bond Fund	290,516.71	170,912,251.24	
Grant earned on Federal Public Works Project		2,358,987.60	
Book Value of Plant Appraisal - June 30, 1948		83,864.03	
Contribution from 1961 Bond Fund		5,464,000.00	$180,743,838.44
DEDUCTIONS:			
Allocated to General Fund		$ 19,172,457.24	
Allocated to Hetch Hetchy Water Supply		4,466,014.40	
Lands Allocated to City and County of San Francisco for Streets and/or Blvds.		172,564.67	
Excess of adjusted book value of plant appraisal, December 31, 1937	1,990,474.91		
Excess of adjusted book value of plant appraisal, June 30, 1953	188,291.42		
Book Value of Plant Appraisal, June 30, 1958	89,383.93		
Book Value of Plant Appraisal, June 30, 1963	91,365.18		
Book Value of Plant Appraisal, June 30, 1968	25,823.00	2,385,338.44	26,196,374.75
NET CAPITAL INVESTMENT JUNE 30, 1979			$154,547,463.69

F I N A L

PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT
EXHIBIT "C"
COMPARATIVE INCOME STATEMENT
TWELVE MONTHS ENDING JUNE 30, 1979

TITLE		FISCAL YEAR 1978-1979	FISCAL YEAR 1977-1978	INCREASE (DECREASE)	MARCH 03, 1930 TO JUNE 30, 1979
OPERATING INCOME					
Sale of Water		$ 35,153,900.98	$ 33,112,725.30	$ 2,041,175.68	$ 62,011,281.06
OPERATING REVENUE DEDUCTIONS					
Operating Expenses		$ 18,612,399.34	$ 20,536,649.51	$(1,924,250.17)	$311,268,693.39
Purchase of Water		7,150,000.00	7,175,000.00	(25,000.00)	54,171,061.92
Depreciation		4,125,485.00	3,899,433.62	226,051.38	32,231,091.08
Taxes - Actual		837,428.26	1,734,197.28	(896,769.02)	37,336,613.02
TOTAL OPERATING REVENUE DEDUCTIONS		$ 30,725,312.60	$ 33,345,280.41	$(2,619,967.81)	$435,007,459.41
UTILITY OPERATING INCOME		$ 4,428,588.38	$ (232,555.11)	$ 4,661,143.49	$177,003,821.65
OTHER INCOME		2,165,812.45	1,787,325.73	378,486.72	48,070,146.30
GROSS		$ 6,594,400.83	$ 1,554,770.62	$ 5,039,630.21	$225,073,967.95
INCOME DEDUCTIONS		1,245,413.52	1,298,493.48	(53,079.96)	60,530,952.99
INCOME TRANSFERRED TO NET CAPITAL INVESTMENT		$ 5,348,987.31	$ 256,277.14	$ 5,092,710.17	$164,543,014.96
House Rent	$ 4,982.96				
Income from Grants	162,467.00				
Rents - Including Share Crops	1,171,612.60				
Contractors' Damage Claims	26,142.85				
Interest Revenue	284,754.95				
Turn-on Fees	8,000.00				
Fixed Asset Sales	85,141.05				
Miscellaneous	384,135.41				
Walnut Orchard	38,575.63				
TOTAL OTHER INCOME	$ 2,165,812.45				
Non-Operating Revenue Deductions	$ 236,467.79				
Interest on Long-Term Debt	1,008,945.73				
TOTAL INCOME DEDUCTIONS	$ 1,245,413.52				

F I N A L

PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT

EXHIBIT "E"
COMPARATIVE INCOME STATEMENT
JUNE 30, 1979

TITLE		FISCAL YEAR 1978 - 1979	FISCAL YEAR 1977 - 1978	INCREASE (DECREASE)	MARCH 3, 1930 TO JUNE 30, 1979
OPERATING INCOME					
SALE OF WATER:					
Water Sales - San Francisco		$15,194,732.75	$15,502,218.52	$(55,485.77)	
Water Sales - Outside San Francisco		17,503,785.98	14,904,977.80	2,598,808.18	
Water Sales - Municipal Departments - Paying		142,033.59	140,371.39	1,662.20	
Water Sales - Municipal Departments - Non-paying		2,313,348.66	2,817,157.59	(503,808.93)	
TOTAL WATER SALES		$ 35,153,900.98	$ 33,112,725.30	$2,041,175.68	$762,011,281.06
OPERATING REVENUE DEDUCTIONS					
SOURCE OF SUPPLY:					
Operation, Supervision and Engineering	701	$ 2,824.17	$ 22,307.35	$ (19,483.18)	
Operating, Labor and Expense	702	1,344,271.16	992,989.28	351,281.88	
Miscellaneous Expenses	703	1,264.39	1,297.85	(33.46)	
Purchased Water	704	-0-	597,961.20	(597,961.20)	
Maintenance Supervision and Engineering	706	9,866.27	1,090.73	8,775.54	
Maintenance of Structure and Improvements	707	90,524.48	133,581.58	(43,057.10)	
Maintenance of Collection and Impounding Reservoirs	708	400,796.19	410,060.70	(9,264.51)	
Maintenance of Lake, River and Other Intakes	709	332.68	3,458.14	(3,125.46)	
Maintenance of Springs and Tunnels	710	798.04	704.12	93.92	
Maintenance of Wells	711	852.81	640.88	211.93	
Maintenance of Supply Mains	712	78,425.12	97,959.62	(19,534.50)	
Maintenance of Other source of Supply Plant	713	-0-	-0-	-0-	
Hydrography	718	387.11	226.83	160.28	
TOTAL SOURCE OF SUPPLY EXPENSES		$1,930,342.42	$ 2,262,278.28	$(331,935.86)	$33,959,558.99
PUMPING EXPENSES					
Pumping Labor and Expenses	724	$ 635,287.89	$ 489,409.50	$ 145,878.39	
Miscellaneous Supplies and Expenses	725	2,405.46	8,174.28	(5,768.82)	
Fuel or Power Purchased for Pumping	726	737,661.89	307,630.04	430,031.85	
Maintenance, Supervision and Engineering	729	-0-	2,631.33	(2,631.33)	
Maintenance, of Structures and Improvements	730	21,737.12	15,128.45	6,608.67	
Maintenance of Primary Pumping Equipment	731	811.06	38.18	772.88	
Maintenance of Pumping Equipment	732	167,005.27	134,947.32	32,057.95	
Gardening	734	4,515.20	3,731.14	784.06	
TOTAL PUMPING EXPENSES		$ 1,569,423.89	$ 961,690.24	$ 607,733.65	$ 20,205,985.26
PURIFICATION EXPENSE ACCOUNTS					
Operation, Supervision and Engineering	741	$ 144,129.20	$ 151,190.90	$ (7,061.70)	
Operation, Labor, and Expenses	742	1,229,595.24	981,986.01	247,609.23	
Miscellaneous Expenses	743	1,792.11	174.40	1,617.71	
Supplies and Expenses	744	570,608.12	602,971.52	(32,363.40)	
Maintenance, Supervision and Engineering	746	56.00	5,465.89	(5,409.89)	
Maintenance of Structures and Improvements	747	76,925.43	63,323.81	13,601.62	
Maintenance of Water Treatment Equipment	748	18,877.56	10,660.76	8,216.80	
TOTAL PURIFICATIONS EXPENSES		$2,041,983.66	$1,815,773.29	$ 226,210.37	$ 21,960,493.48

PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT

EXHIBIT "E" (CONT'D)
COMPARATIVE INCOME STATEMENT
JUNE 30, 1979

TITLE		FISCAL YEAR 1978 - 1979	FISCAL YEAR 1977 - 1978	1978 - 1979 INCREASE (DECREASE)	MARCH 3, 1930 TO JUNE 30, 1979
OPERATING REVENUE DEDUCTIONS (CONT')					
TRANSMISSION AND DISTRIBUTION ACCOUNT					
Operation, Supervision, and Engineering	751	$315,297.36	$416,484.09	$(101,186.73)	
Storage Facilities Expenses	752	8,049.26	2,905.14	5,144.12	
Transmission and Distribution Lines Expenses	753	135,009.46	117,162.72	17,846.74	
Meter Expenses	754	384,580.77	346,122.56	38,458.21	
Customer Installation Expenses	755	57,293.44	66,715.31	(9,421.87)	
Miscellaneous	756	19,870.70	3,626.24	16,244.46	
Operating Expenses - City Yard	757	380,608.06	320,339.50	60,268.56	
Maintenance, Supervision and Engineering	758	437.36	202.83	234.53	
Maintenance of Structures and Improvements	759	219,772.93	226,270.02	(6,497.09)	
Maintenance of Reservoirs and Tanks	760	85,261.94	45,973.53	39,288.41	
Maintenance of Transmission Lines and Canals	761	103,765.43	190,715.29	(86,949.86)	
Pipeline Electrolysis	762	45,129.92	14,191.06	30,938.86	
Maintenance of Services	763	707,819.54	1,117,968.83	(410,149.29)	
Maintenance of Miscellaneous Plant	766	201,065.41	206,912.22	(5,846.81)	
Maintenance of Distribution Mains, Canals, etc.	767	1,482,557.72	1,308,567.50	173,990.22	
Reconditioning of Salvaged Materials	768	-0-	-0-	-0-	
Recoverable Claims - Mains and Services	769	55,122.08	14,458.79	40,663.29	
TOTAL TRANSMISSION & DISTRIBUTION ACCOUNTS		$4,201,641.38	$4,398,615.63	$(196,974.25)	$85,385,883.77
CUSTOMER'S ACCOUNTS EXPENSES					
Meter Reading Expenses	772	$ 256,242.08	$ 229,765.27	$ 26,476.81	
Customer Records and Collection Expenses	773	276,882.37	300,723.19	(23,840.82)	
Miscellaneous Customer Accounts Expenses	774	300,096.61	560,706.09	(260,609.48)	
Inspection and Service	775	665,805.26	612,730.32	53,074.94	
Bookeeping Department	776	148,851.81	128,297.79	20,554.02	
Shipping	777	44,307.57	48,370.31	(4,062.74)	
TOTAL CUSTOMER'S ACCOUNTS EXPENSES		$1,692,185.70	$ 1,880,592.97	$ (188,407.27)	$34,235,099.98
ADMINISTRATIVE AND GENERAL					
Salaries - General Officers	780	$ 41,742.00	$ 38,268.80	$ 3,473.20	
Salaries - General Office	781	301,592.12	284,964.30	16,627.82	
General Engineering	782	711,190.86	721,941.30	(10,750.44)	
Resources and Planning	783	100,419.60	71,999.14	28,420.46	
Office Supplies and other Expenses	784	34,762.47	47,664.32	(12,901.85)	
Telephone Service	785	125,086.71	135,992.32	(10,905.61)	
Mason Street Operating Expenses	786	150,494.04	121,646.76	28,847.28	
Municipal Taxes - Comparison	787	2,314,296.66	2,817,157.59	(502,860.93)	
Outside Services Employed	788	(3,146.25)	27,860.49	(31,006.74)	
Insurance - Compensation	789	467,133.91	459,085.73	8,048.18	
Insurance - Other	790	21,190.85	56,038.00	(34,847.15)	
Injuries and Damages	791	(232,469.41)	(9,138.28)	(223,331.13)	
Pensions	792	1,246,812.27	1,630,709.01	(383,896.74)	
Social Security	793	419,366.03	443,024.68	(23,658.65)	
Electronic Data Processing	794	616,257.67	648,369.66	(32,111.99)	
Public Utilities Commission	798	508,291.07	390,542.64	117,748.43	
Maintenance of Central Control System	804	15,895.61	16,045.59	(149.98)	
Maintenance to Telephone System	805	9,497.96	8,078.36	1,419.60	
Maintenance to 425 Mason Street Building	807	19,067.15	17,237.52	1,829.63	
Maintenance to Radio System	808	12,655.91	15,917.98	(3,262.07)	
Inventory Expense-Maintenance	809	17,071.95	(25,037.90)	42,109.85	
Maintenance of Non-Operative Property	810	9,709.96	15,740.23	(6,030.27)	
Miscellaneous Maintenance	819,806,811,812,813	190,086.52	467,084.55	(276,998.03)	
TOTAL ADMINISTRATION AND GENERAL EXPENSES		$ 7,097,005.66	$8,401,192.79	$(1,304,187.13)	$112,922,869.70

PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT

EXHIBIT "E" (CONT'D)
COMPARATIVE INCOME STATEMENT
JUNE 30, 1979

TITLE		FISCAL YEAR 1978 - 1979	FISCAL YEAR 1977 - 1978	1978 - 1979 INCREASE (DECREASE)	MARCH 3, 1930 TO JUNE 30, 1979
OPERATING REVENUE DEDUCTIONS (CONT'D.)					
MISCELLANEOUS EXPENSES					
Uncollectible Water Bills	814	$79,518.17	$84,162.66	$(4,644.49)	
Provision for Contingent Funds	815	-0-	-0-	-0-	
Undistributed Operating	817	-0-	732,343.65	(732,343.65)	
Cal-Osha Compliance Expense	818	298.46	-0-	298.46	
TOTAL MISCELLANEOUS EXPENSES		$79,816.63	$816,506.31	$(736,689.68)	$2,598,802.21
TOTAL OPERATING REVENUE DEDUCTIONS		$18,612,399.34	$20,536,649.51	$(1,924,250.17)	$311,268,693.39
OPERATING EXPENSES					
Purchase of Water	502.1	$ 7,150,000.00	$ 7,175,000.00	$ (25,000.00)	
Depreciation	503	4,125,485.00	3,899,433.62	226,051.38	
Taxes-Actual	507	837,428.26	1,734,197.28	(896,769.02)	
TOTAL OPERATING EXPENSES		$12,112,913.26	$12,808,630.90	$ (695,717.64)	$273,738,766.02
TOTAL OPERATING REVENUE DEDUCTIONS & OPERATING EXPENSES		$30,725,312.60	$33,345,280.41	$(2,619,967.81)	$585,007,459.41
UTILITY OPERATING INCOME		$ 4,428,588.38	$ (232,555.11)	$ 4,661,143.49	$177,003,821.65
OTHER INCOME					
Rentals, including Crops Shares	521	$ 1,130,971.40	$ 763,340.01	$ 367,631.39	
Walnut Orchard Sales	526	38,575.63	20,919.30	17,656.33	
Miscellaneous	526	626,369.42	347,928.05	278,441.37	
Interest Earned	524	284,754.95	199,198.24	85,556.71	
Sales of Real Estate and Fixed Assets	526	85,141.05	455,940.13	(370,799.08)	
TOTAL OTHER INCOME		$ 2,165,812.45	$ 1,787,325.73	$ 378,486.72	$ 48,070,146.30
GROSS INCOME		$ 6,594,400.83	$ 1,554,770.62	$ 5,039,630.21	$225,073,967.95
INCOME DEDUCTIONS					
Agricultural Division	850-854	$ 236,467.79	$ 150,298.27	$ 86,169.52	
Interest on Long-Term Debt	530	1,008,945.73	1,148,195.21	(139,249.48)	
TOTAL INCOME DEDUCTIONS		$ 1,245,413.52	$ 1,298,493.48	$ (53,079.96)	$ 60,530,952.99
NET INCOME TRANSFERRED TO NET CAPITAL INVESTMENT		$ 5,348,987.31	$ 256,277.14	$ 5,092,710.17	$164,543,014.96

BOND REDEMPTION AND INTEREST

WATER DEPARTMENT

FISCAL YEAR	REDEMPTION			INTEREST			TOTAL REDEMPTION PLUS INTEREST
	MUNI WATER		SYSTEM TOTAL	MUNI WATER		SYSTEM TOTAL	
	1961	1972		1961	1972		
1978-79	$ 2,691,370	$ 695,000	$ 3,386,370	$ 717,797	$ 972,330	$ 1,690,127	$ 5,076,497
1979-80	2,691,374	845,000	3,536,374	627,064	1,378,339	2,005,403	5,541,777
1980-81	2,691,370	1,045,000	3,736,370	536,012	1,321,414	1,857,426	5,593,796
1981-82	2,691,374	1,060,000	3,751,374	444,737	1,257,501	1,702,238	5,453,612
1982-83	2,451,375	1,070,000	3,521,375	352,868	1,192,776	1,545,644	5,067,019
1983-84	1,563,397	1,085,000	2,648,397	268,066	1,127,239	1,395,305	4,043,702
1984-85	1,563,396	1,100,000	2,663,396	208,524	1,060,726	1,269,250	3,932,646
1985-86	1,477,686	1,115,000	2,592,686	149,899	993,989	1,143,888	3,736,574
1986-87	1,196,546	1,130,000	2,326,546	106,612	928,946	1,035,558	3,362,104
1987-88	586,561	1,145,000	1,731,561	79,394	862,179	941,573	2,673,134
1988-89	390,848	1,160,000	1,550,848	52,665	793,991	846,656	2,397,504
1989-90	267,423	1,205,000	1,472,423	34,124	725,169	759,293	2,231,716
1990-91	267,423	1,350,000	1,617,423	21,130	653,253	674,383	2,291,806
1991-92	119,998	1,405,000	1,524,998	8,136	576,978	585,114	2,110,112
1992-93	47,999	1,455,000	1,502,999	2,448	497,348	499,796	2,002,795
1993-94	-0-	1,270,000	1,270,000	-0-	420,555	420,555	1,690,555
1994-95	-0-	1,665,000	1,665,000	--0-	337,148	337,148	2,002,148
1995-96	-0-	1,115,000	1,115,000	-0-	252,459	252,459	1,367,459
1996-97	-0-	1,220,000	1,220,000	-0-	189,212	189,212	1,409,212
1997-98	-0-	1,285,000	1,285,000	-0-	124,985	124,985	1,409,985
1998-99	-0-	1,340,000	1,340,000	-0-	65,725	65,725	1,405,725
1999-2000	-0-	830,000	830,000	-0-	18,675	18,675	848,675
	$20,698,140	$25,590,000	$46,288,140	$3,609,476	$15,750,937	$19,360,413	$65,648,553

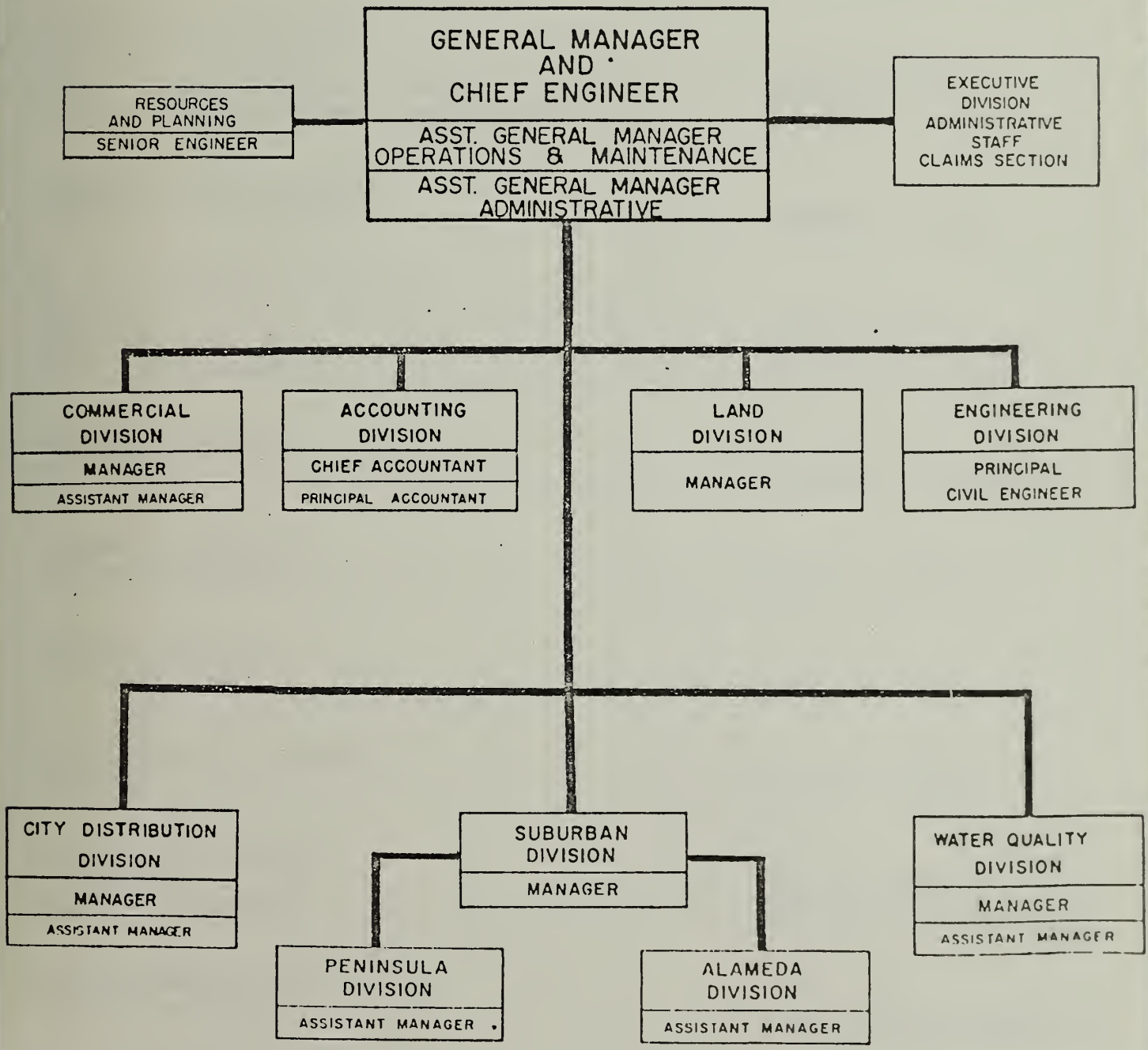
ORIGINAL AMOUNT AND INTEREST RATE

$47,999,000	$27,925,000
2-1/4 to 6%	4% to 6.5%

ORGANIZATION AND PERSONNEL

CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION

SAN FRANCISCO WATER DEPARTMENT
ORGANIZATION CHART



PERSONNEL

General Manager	Eugene J. Kelleher
ENGINEERING DIVISION	
Principal Engineer	Paul Matsumura
Senior Civil Engineer, Design	Thomas Q. Chan
Senior Civil Engineer, Construction	Donald P. Cooper
RESOURCES AND PLANNING	
Senior Civil Engineer	Raymond F. Quan
CITY DISTRIBUTION DIVISION	
Manager	John E. Kenck
Assistant Manager	George Y. Nakagaki
Shop Superintendent	Edmund A. Brodie
SUBURBAN DIVISION	
Manager	Gilbert G. Bendix
PENINSULA DIVISION	
Assistant Manager	Edward L. Fonseca
ALAMEDA DIVISION	
Assistant Manager	Tandy W. Carter
WATER QUALITY DIVISION	
Manager	Harry W. Tracy
COMMERCIAL DIVISION	
Manager	John Mullane
Assistant Manager	Robert A. Vasconcellos
ACCOUNTING DIVISION	
Chief Accountant	Harold Guetersloh, Jr.
LAND DIVISION	
Manager	Richard Tanaka

NUMBER OF EMPLOYEES

Permanent	564
Temporary	41